

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated May 19, 2004. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 6-23 are under consideration in this application. Claims 1-5 are being cancelled without prejudice or disclaimer. Claims 6-11 and 15-23 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim applicants' invention.

Additional Amendments

The claims are being amended to correct formal errors and/or to better disclose or describe the features of the present invention as claimed. All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

Claims 1-23 were rejected under 35 U.S.C. § 102(e) on the grounds of being anticipated by US Pat. App. Pub. No. 2002/0031876 of Hara et al. (hereinafter "Hara"), and claim 15 was rejected under 35 U.S.C. § 103(a) on the grounds of being unpatentable over Hara in view of an article by Stanley Wolf (Silicon Processing for the VLSI Era, Vol. I-Process Technology; hereinafter "Wolf"). These rejections have been carefully considered, but are most respectfully traversed.

A method for fabricating an image display device comprising an active matrix substrate SUB1 having a pixel region PAR formed with a large number of pixels PX arranged as a matrix and a drive circuit region DAR1 formed with an active circuit for supplying a drive signal to said

pixels PX from outside said pixel region PAR according to the invention, as now recited in claim 6, comprising the steps of: forming a polycrystalline silicon film PSI over said pixel region PAR and said drive circuit region DAR1 of said active matrix substrate SUB1; selectively irradiating a portion of the polycrystalline silicon film PSI located in said drive circuit region DAR1 with a laser beam having a pulse width and/or a pulse interval modulated by scanning the laser beam or the substrate SUB1 to form *discrete reformed regions* (“virtual tiles” TL; p. 32, line 24) each composed of a quasi-strip-like-crystal silicon film SPSI resulting from reformation (“*to preliminarily reform (crystallize) an amorphous silicon film... into a polysilicon film*” p. 2, lines 10-14), said quasi-strip-like-crystal silicon film SPSI having a crystal boundary continuous in the direction of scanning; and forming the active circuit such that a carrier moving direction coincides with a direction of said crystal boundary in each of said discrete reformed regions TL. The irradiation with said laser beam having the pulse width and/or pulse interval modulated is performed intermittently at specified intervals to form, into a generally rectangular configuration (e.g., Fig. 23B; “*the generally rectangular regions will be referred to also as virtual tiles*” p. 11, lines 5-6), each of individual reformed regions composing each of said discrete reformed regions TL. The irradiation with said laser beam having the pulse width and/or pulse interval modulated is performed intermittently along one of the peripheral sides of the active matrix substrate SUB1 to arrange the individual reformed regions composing each of said discrete reformed regions TL at specified intervals in a direction in which said drive circuit region DAR1 extends (Fig. 23A-B; p. 48, line 22 – p. 49, line 17).

The use of such virtual tiles not only provides “*a high-performance image display device operating with high mobility* (p. 7, lines 7-8)” “*but also obviates the necessity to irradiate, with the laser beam, the region of a semiconductor film to be etched away in the process of forming a thin-film transistor and the like, thereby significantly reducing an unneeded operation* (p. 11, lines 10-15)”.

Applicants respectfully contend that neither Hara nor any other cited prior art reference teaches or suggests such laser beam irradiation directions being “performed intermittently along one of the peripheral sides of the active matrix substrate to arrange the individual reformed regions composing each of said discrete reformed regions at specified intervals in a direction in which said drive circuit region extends” according to the invention. Such a unique step provide high-performance display device with an active matrix substrate (p. 53, lines 9-12).

In contrast, Hara irradiates with 28 laser sub-beams a polycrystalline silicon film located

over the entire surface of the pixel region from bottom to top (Fig. 23; [0176]), and “*crystallizes a semiconductor film formed in the peripheral circuit region with an energy beam which outputs energy continuously along a time axis at least for the peripheral circuit region, thereby forming the semiconductor film into active semiconductor films of the respective thin film transistors ([0013])*” without specifying the direction of irradiation as “along one of the peripheral sides of the active matrix substratein a direction in which said drive circuit region extends” as in the invention. In view of the above-discussed prior art, it would be intuitive for one skilled in the art to irradiate Hara’s semiconductor film formed in the peripheral circuit region in the same direction as in the pixel region, i.e., from bottom to top, rather than “in a direction in which said drive circuit region extends” as in the invention. Applicants would contend that any motivation to modify the prior art according to the present invention is derived from the Examiner’s knowledge of the present invention, nor from the prior art. Applicants will point out that a rejection based on hindsight knowledge of the invention at issue is improper. Thus, Wolf fails to compensate for Hara’s deficiencies.

Applicants contend that neither Hara nor Wolf teaches or discloses each and every feature of the present invention as disclosed in at least independent claim 6. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

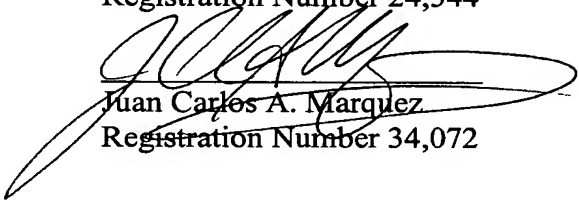
In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicants respectfully contend that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of

the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,

Stanley P. Fisher
Registration Number 24,344


Juan Carlos A. Marquez
Registration Number 34,072

REED SMITH LLP
3110 Fairview Park Drive, Suite 1400
Falls Church, Virginia 22042
(703) 641-4200

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